

Fabspeed Intercooler Installation

Changes made, return to OEM Instructions

Vacuum lines to Aux Air Injection valve (left side – yellow arrow), distributor advance (with yellow zip tie), boost pressure from the stock recirculation valve (banjo bolt – red arrow) just barely visible below the second vacuum line down in the center. Vacuum line to the stock (pie plate) deceleration valve (removed with the stock recirculation valve – green arrow). The vacuum line from this valve goes to the new Fabspeed supplied diverter valve and the deceleration valve (stock) is eliminated. Also showing the electrical connection for the boost pressure sensor (large one – blue arrow) to the right. The smaller vacuum control (thermo switch) is in the center just next to the coil. That and the valve to the left of it with three vacuum lines and the rivets in the top both get mounted where the stock recirculation valve is now and the vacuum line to the auxiliary air injection valve was eliminated with the removal of the auxiliary air pump and the valve that controls the sending of aux air to the exhaust ports. The large black hose to the left (turbo charge air – purple arrow) is removed and will be replaced with the Fabspeed supplied silicone hose.



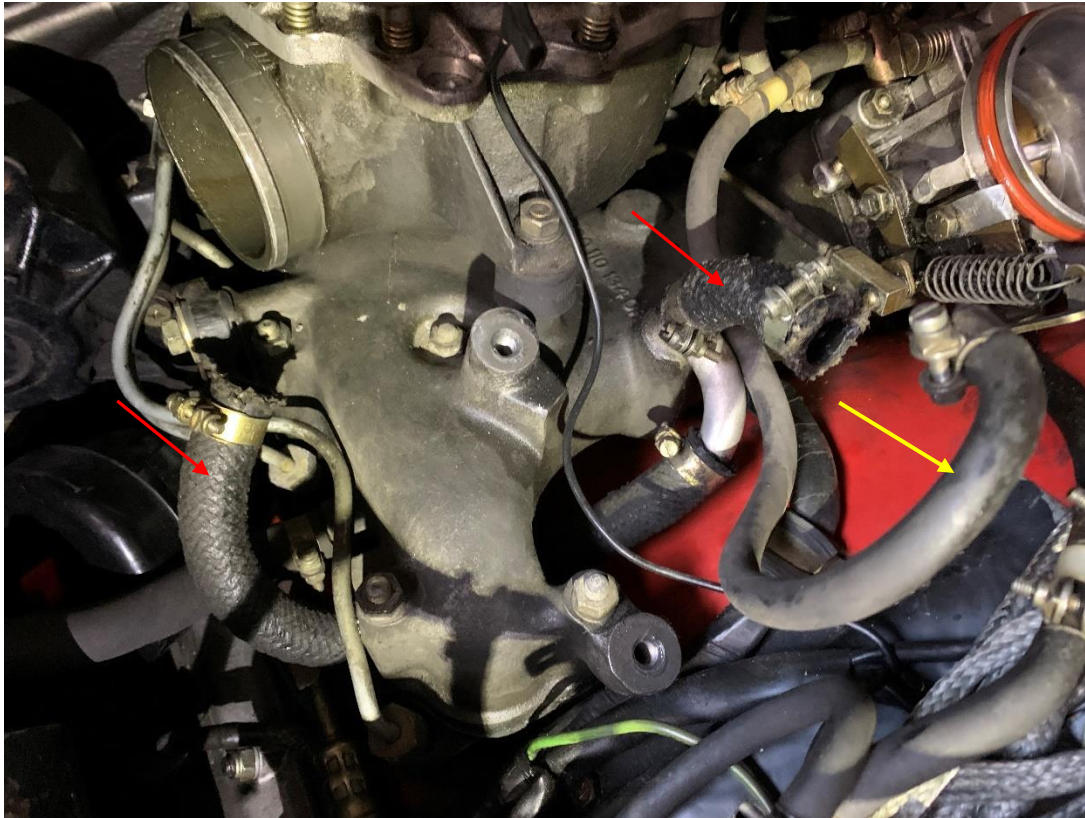
Close up of the stock deceleration valve with the vacuum line that goes to the new diverter valve (from the Throttle Body), partially hidden by the vacuum lines that go to the small disc shaped electronic thermo switch in the previous picture. Also shown is the electrical connection to the larger boost pressure sensor.



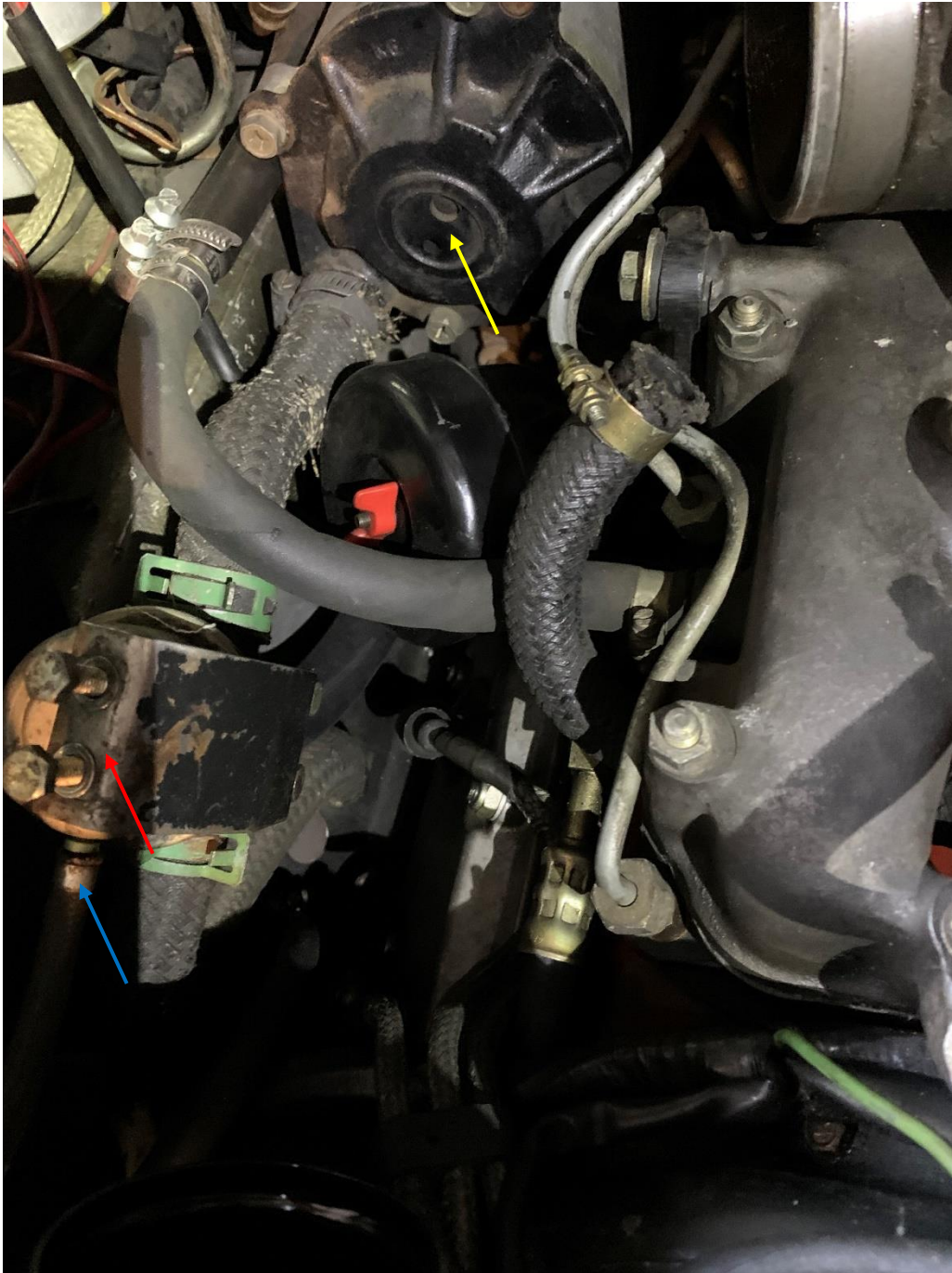
Electrical connection to the smaller (on the rear of the stock recirculation valve body) boost pressure sensor – I believe this one is for over-boost sensing the larger one on the front is for the boost pressure gauge.



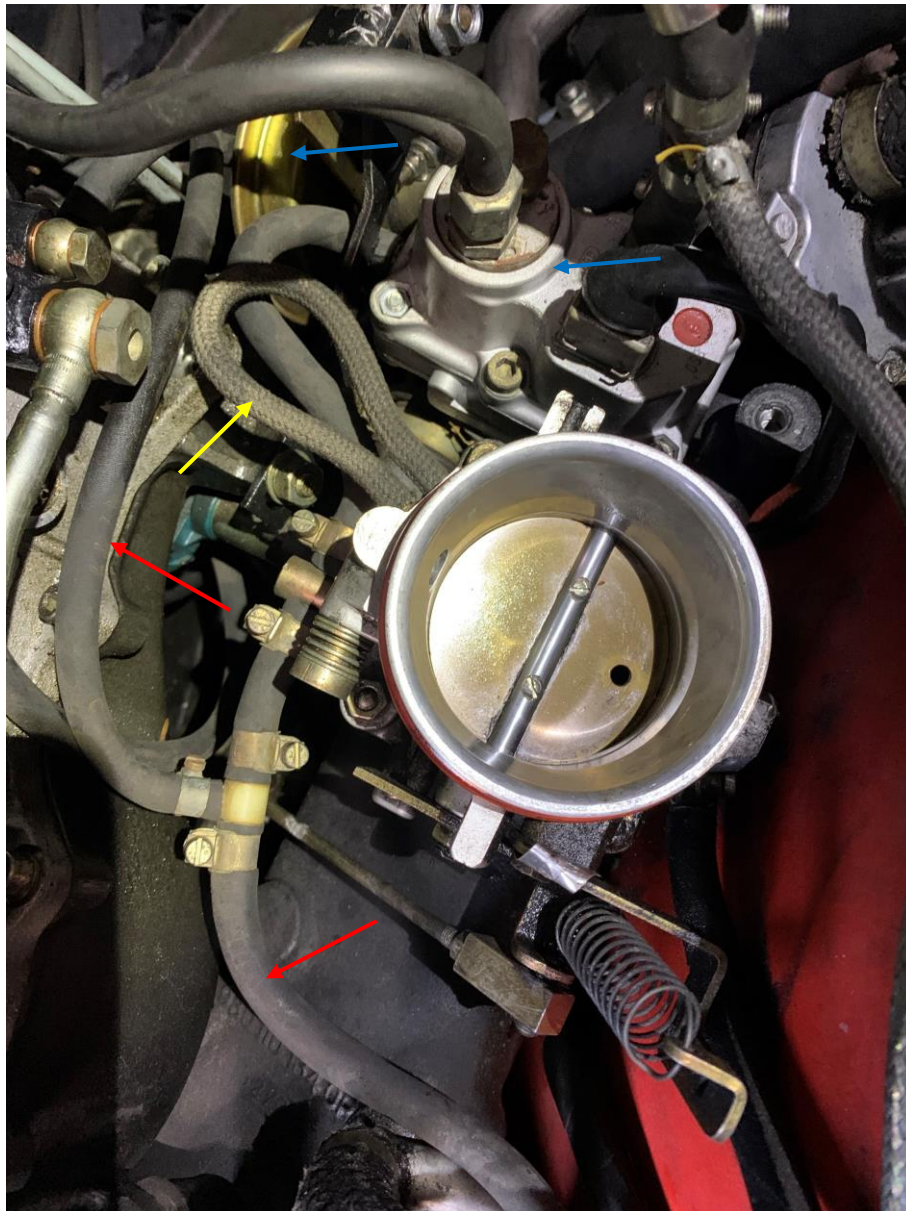
After removal of the large stock recirculation valve this is what is there. The two hoses from the aluminum elbow fitting in the front of the intake manifold are for connection to the deceleration valve and the stock recirculation valve – red arrows. The deceleration valve connections (shorter one on the right / center) allow for air to pass directly to the intake manifold and bypass the throttle body for slower drop in RPMs when coming off throttle. The open hose end on the left connects to the recirculation valve and allows for excess boost pressure to recirculate from the intake manifold back into the recirculation body. Both of these are capped off and not needed with the Fabspeed intercooler. You can also see the vacuum line that came off the deceleration valve (looping up close to the camera in the lower right ¼ of the frame – yellow arrow) and will connect to the new Fabspeed diverter valve.



On the left side of the engine, you can see the auxiliary air pump (smog pump – yellow arrow) in the back left with its intake air filter housing (with the red wingnut on the top), connected to the auxiliary air control valve (with the green spring clamps on it – red arrow) which was bolted to the stock recirculation valve (two bolts visible) and hard to left the vacuum line to the control valve – blue arrow. All of this is to be removed as the smog pump is not needed with all its encumbrances. I had to cut the drive belt to the smog pump to avoid a larger teardown.



Looking down on the Throttle Body you can see the vacuum line loop back on itself that was formerly connected this way to disable the exhaust gas recirculation valve – yellow arrow. Normally this loop would be a straight vacuum line to the EGR valve in the right front of the engine bay (passenger side) with stainless piping that runs to the exhaust and to the back of the intake manifold. This is an emissions device to recirculate spent exhaust gases under certain conditions based on the vacuum from this connection and the control valve (EGR valve). Also visible are the vacuum lines that run to the previously described connections for the deceleration valve and the T'd connection – red arrows, visible runs to another electronic thermo switch on the back of the fuel distributor housing which controls the pie plate auxiliary air intake valve for cold starting air supply. See pictures below. The WUR (warm up regulator) and auxiliary air intake (just barely visible) on the upper right of this picture – blue arrows.

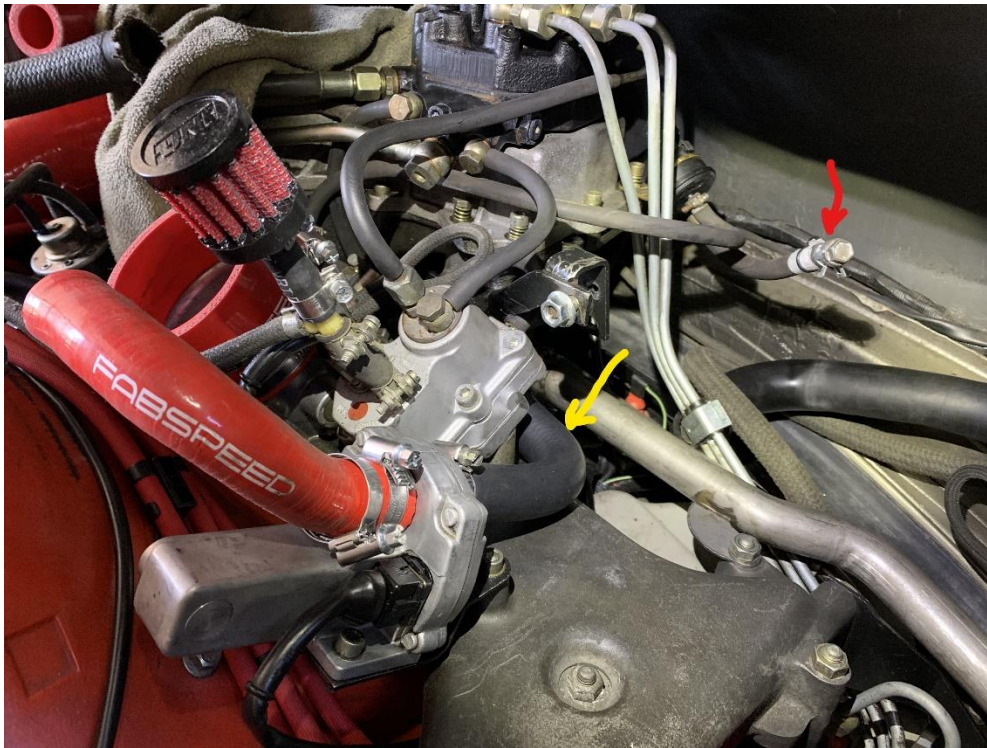


This view shows the electronic thermo switch on the back, right side of the fuel distributor – yellow arrow, with the vacuum connection (T'd) to the throttle body and to the back side of the auxiliary air valve (pie plate – red arrow) for adding additional air supply to the engine during startup. This essentially is like pressing the gas pedal slightly to start the air flow to the engine, in combination with the aux air regulator (AAR) – blue arrow, in front of the pie plate valve. The WUR (warm up regulator – purple arrow) is also shown here with two lines to the fuel distributor. This enriches the fuel mixture upon startup and controls fuel mixture throughout the run cycle. The only change here is that the fresh air intake for the pie plate aux air intake used to connect to the stock intercooler. The new Fabspeed IC only has one port for connection which is used by the aux air regulator (visible with the electrical connection and woven hose in the bottom center of this photo). The upper, pie plate connection will be T'd into the same line as the auxiliary air regulator line from the intercooler (not shown in picture below). My car is the California car and these were add-ons for the smog control there so Fabspeed built their intercooler for the usual configuration with only one port coming off the intercooler. See



update below – I have since installed the Fabspeed Cold Air intake (air filter) and re-configured the car to the 'normal' US spec (not California) and deleted the Auxiliary Air Valve (pie plate). I did this by ordering part # 930-110-335-08 which is for a later model / non-CA car configuration which make a single connection to the intake plenum from the Auxiliary Air Regulator instead of the dual connections to the AAR and AAV as shown in the above picture. I then capped (with a screw and some silicone

sealer) the vacuum line from the thermal valve on the back right of the fuel distributor shown in the picture above. I labeled that vacuum line and kept the original hoses, clamps and AAV in case anyone wants to re-install this. Picture of the way it looks now is below. Red arrow shows capped vacuum line to back of AAV. Yellow arrow shows replacement part hose for elimination of the AAV. You can also see in this picture the WUR vented (filtered) to atmosphere in preparation for the Fabspeed CAI. Normally the WUR is vented to the stock air box which is removed.



The below picture is the removed AAV and stock (CA) hose arrangement replaced by the above arrangement.

Update (7/21/22) – I am considering (per above) replacing the pie plate Aux Air Valve shown in above pictures and reversing the above configuration as I am having some warm start challenges. It starts and runs great once running but does not fire right up as I would like.

